Solar System Exploration Strategy

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Future Missions and Required Capabilities: 2005 - 2020

• A future program of exciting, rewarding, low-cost missions will be enabled by the technology investments we are making today

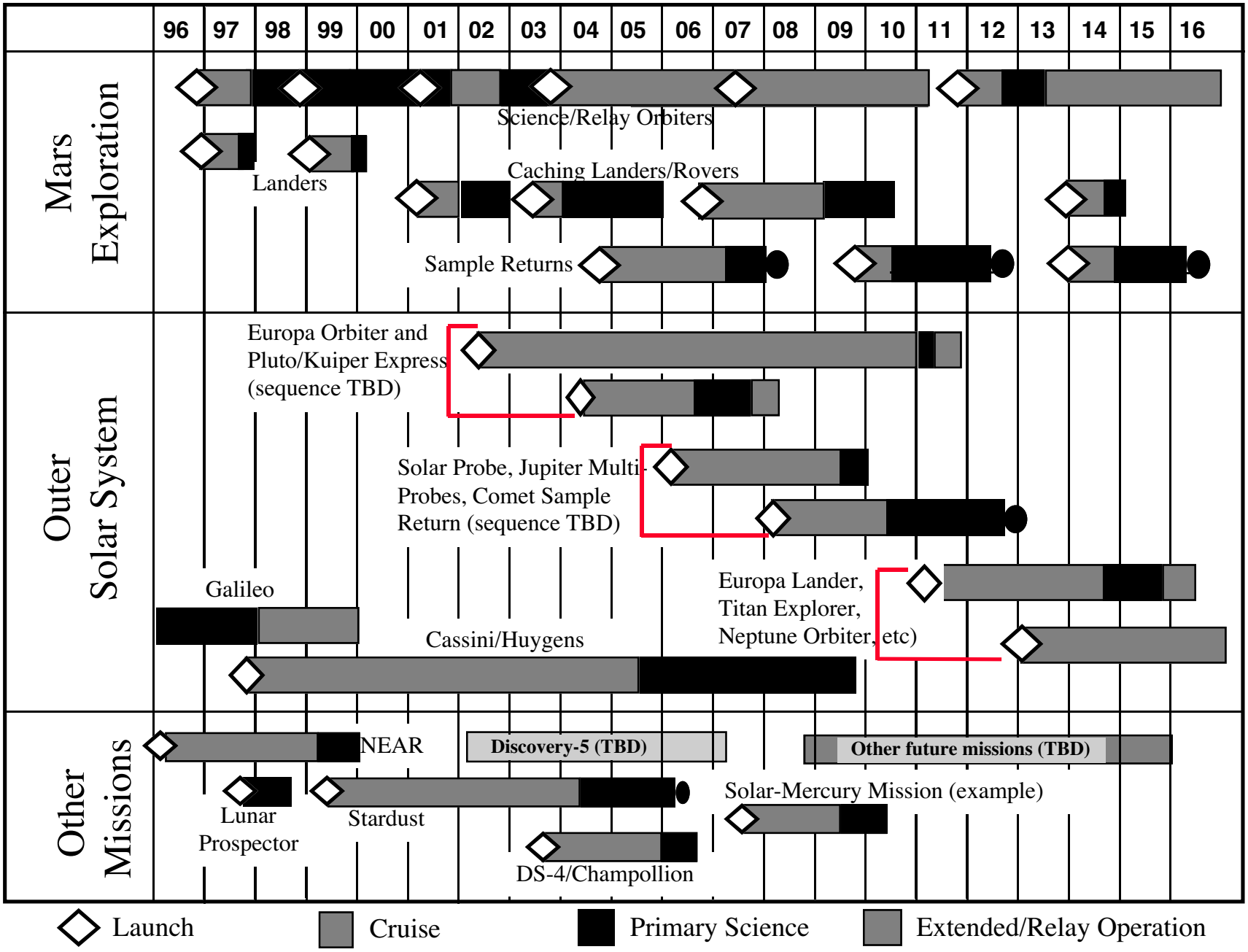
- Micro-avionics systems...toward a "spacecraft-on-a-chip"
- High-performance propulsion and communications
- Surface and atmospheric mobility, entry systems
- Remote and *in situ* instruments and sampling systems
- Autonomy, survivability, information systems

• The core "component" technology developments that will lead to these future system capabilities must continue to be supported

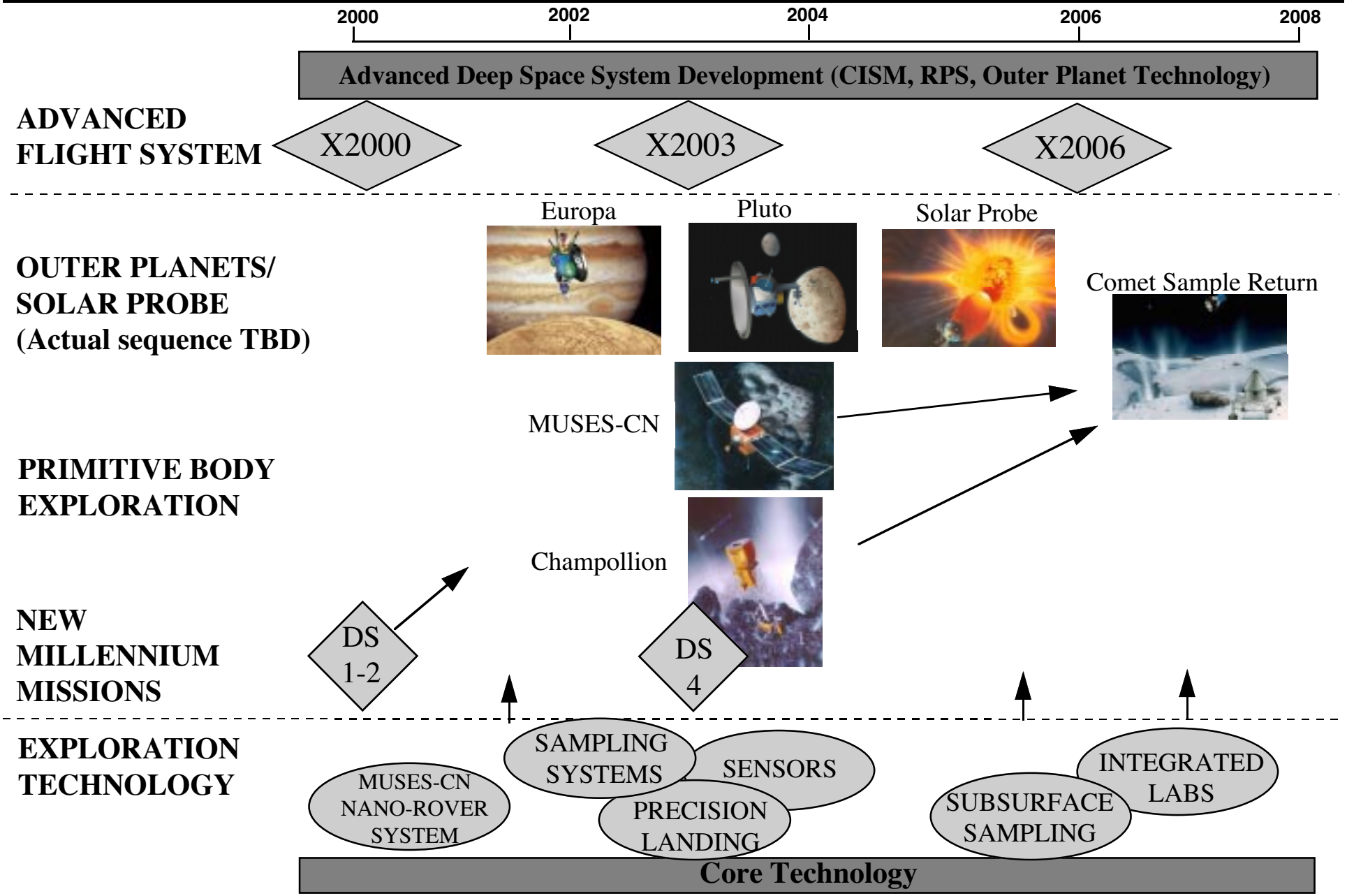
• The future planetary program will continue to emphasize *in situ* exploration and sample return, along with complementary remote sensing missions as needed. High-priority future objectives will include:

- Europa interior and possible organic chemical processes
- Venus and Titan atmospheres and surfaces
- Continued sampling and *in situ* analysis of small bodies and Mars
- Giant planet deep interiors and the Neptune/Triton system
- Mercury and Io surface and interior studies

Solar System Exploration Missions



Chemical Origins and Pre-Biotic Chemistry: An Integrated Mission and Technology Program



Mars Exploration:
Integrated Mission and Technology Program

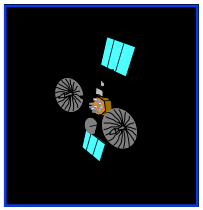
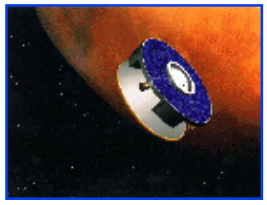
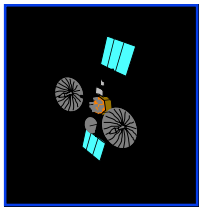
2000 2002 2004 2006 2008

Advanced Deep Space System Development (CISM, RPS, Outer Planet Technology)

ADVANCED FLIGHT SYSTEM

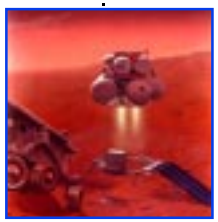
X2000 X2003 X2006

ORBITERS/ CARRIER VEHICLES

LANDERS/ ROVERS






SAMPLE RETURN

EXPLORATION TECHNOLOGY

LIGHTWEIGHT PROPULSION

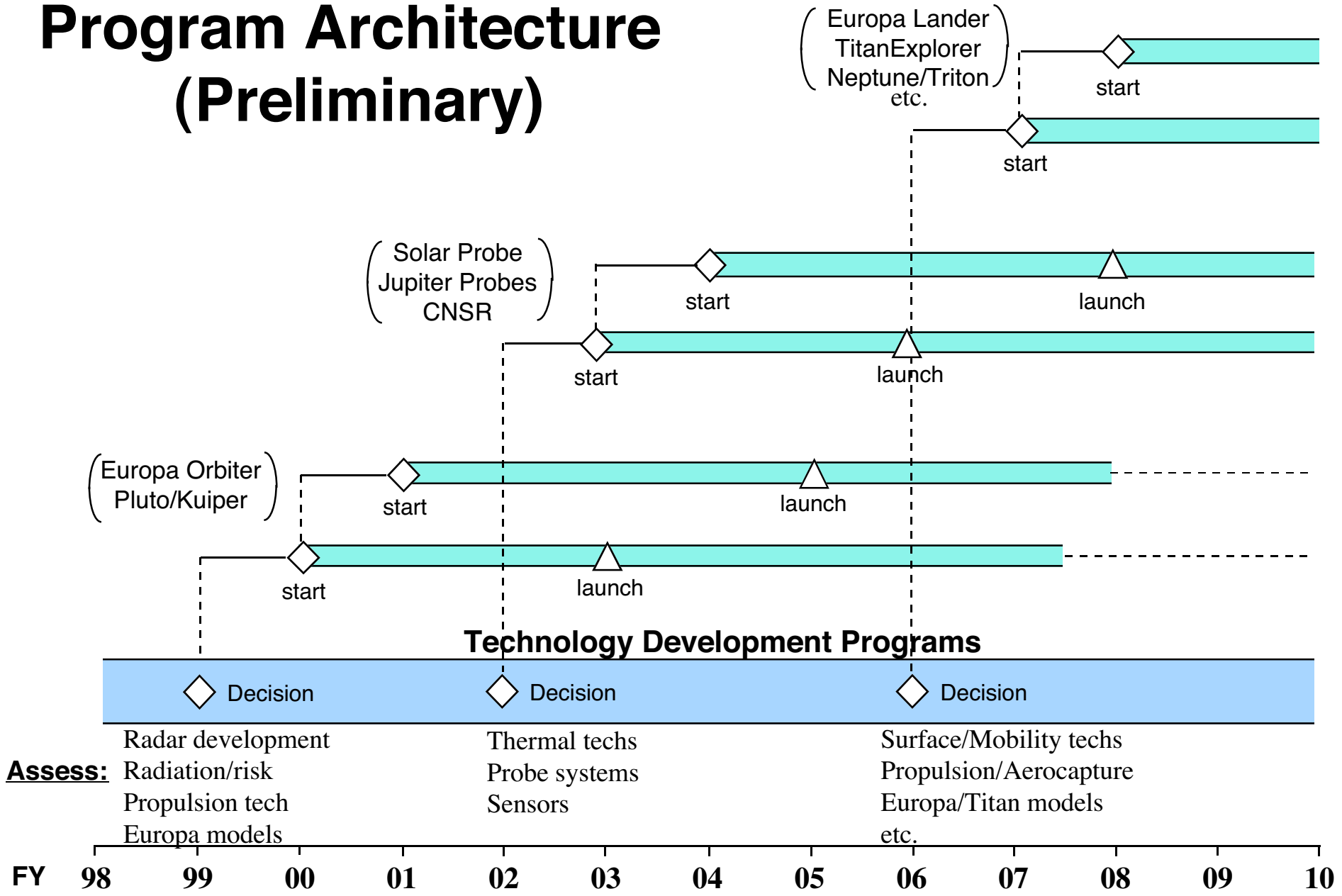
IN SITU INSTRUMENTS

PLANETARY PROTECTION

INSTRUMENTS/ SAMPLER INTEGRATION

Core Technology Program

Outer Solar System Program Architecture (Preliminary)

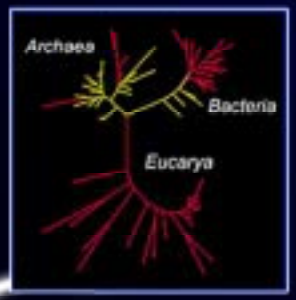


Life in the Cosmos

Mars Environments

Intensive Mars Sampling

Pre-Biotic Chemistry



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Earth-Like Planets

Water and Organics: The Building Blocks of Life

Family Portraits

Jupiter-size Planets

Potential Planetary Systems